MULTI-FUNCTION AIR DATA SENSING PROBE HAVING AN ANGLE OF ATTACK VANE

ABSTRACT OF THE DISCLOSURE

A multi-function air data sensing probe has a strut that is mounted on an aircraft and extends laterally from the aircraft skin. The strut is supported on a base plate, and has a pitot pressure sensing tube at the outer end thereof, with a pitot port facing upstream, and also includes a passageway for total air temperature sensor including a forwardly facing inlet scoop that leads to a chamber in the strut that is laterally offset from the inlet scoop so that flow changes direction as it enters the chamber. The surface defining the change of direction between the scoop and the chamber is provided with bleed holes for bleeding off boundary layer air. A vane type air data sensor is mounted on a shaft that rotates freely and is supported on the strut, and is positioned to sense the relative air flow past the strut to determine changes of relative angles of such air flow. In addition, the strut has static pressure sensing ports on lateral sides thereof leading to a separate chamber on the interior of the strut.